Lab Assignment
& Solution

Cybersecurity Professional Program

Introduction to Python
for Security

Data Types & Conditions

PY-02-LS6
Data Structure

Note: Solutions for the instructor are shown inside the green box.

Lab Objective

Understand how to work with data structures and their content.

Lab Mission

Extract data from lists, dictionaries, and tuples.

Lab Duration

10-15 minutes

Requirements

- Knowledge of how dictionaries and lists operate.
- Working knowledge of the print function.

Resources

- Environment & Tools
    - Windows, Linux, MacOS
        - Python 3
        - PyCharm

Textbook References

- Chapter 2: Data Types & Conditions
    - Section 4: Advanced Data Structure

Lab Task

Use the following data structure that contains a dictionary and a list, to practice value extraction.

structure = [{'Arizona': 'Phoenix', 'California': 'Sacramento', 'Hawaii': 'Honolulu'},5000,6000,7000,['hat', 't-shirt', 'jeans']]

1. Copy the provided variable to the IDE.

```
structure = [{'Arizona': 'Phoenix', 'California': 'Sacramento', 'Hawaii': 'Honolulu'},
             5000,6000,7000,['hat', 't-shirt', 'jeans']]
```

2. Print “5000” by extracting it from the variable.

```
print(structure[1])
```

3. Print the dictionary of states and cities from the variable. For example: {'Arizona': 'Phoenix', 'California': 'Sacramento', 'Hawaii': 'Honolulu'}

```
print(structure[0])
```

4. Print the list of clothes from the variable. For example: ['hat', 't-shirt', 'jeans']

```
print(structure[4])
```

5. Print the word “Phoenix” from the variable.

```
print(structure[0]['Arizona'])
```

6. Print the word “jeans” from the variable.

```
print(structure[4][2])
```

7. Delete the value “7000” using the del() function.

```
del(structure[3])
```

8 Print the data structure after the deletion change.

```
print(structure)
```

9 Append “new value” to the list, using the append() function.

```
structure.append("new value")
```

10 Print the data structure after the update.

```
print(structure)
```